

FIGURE 1

3'-5' Synthesis With DMT Protection

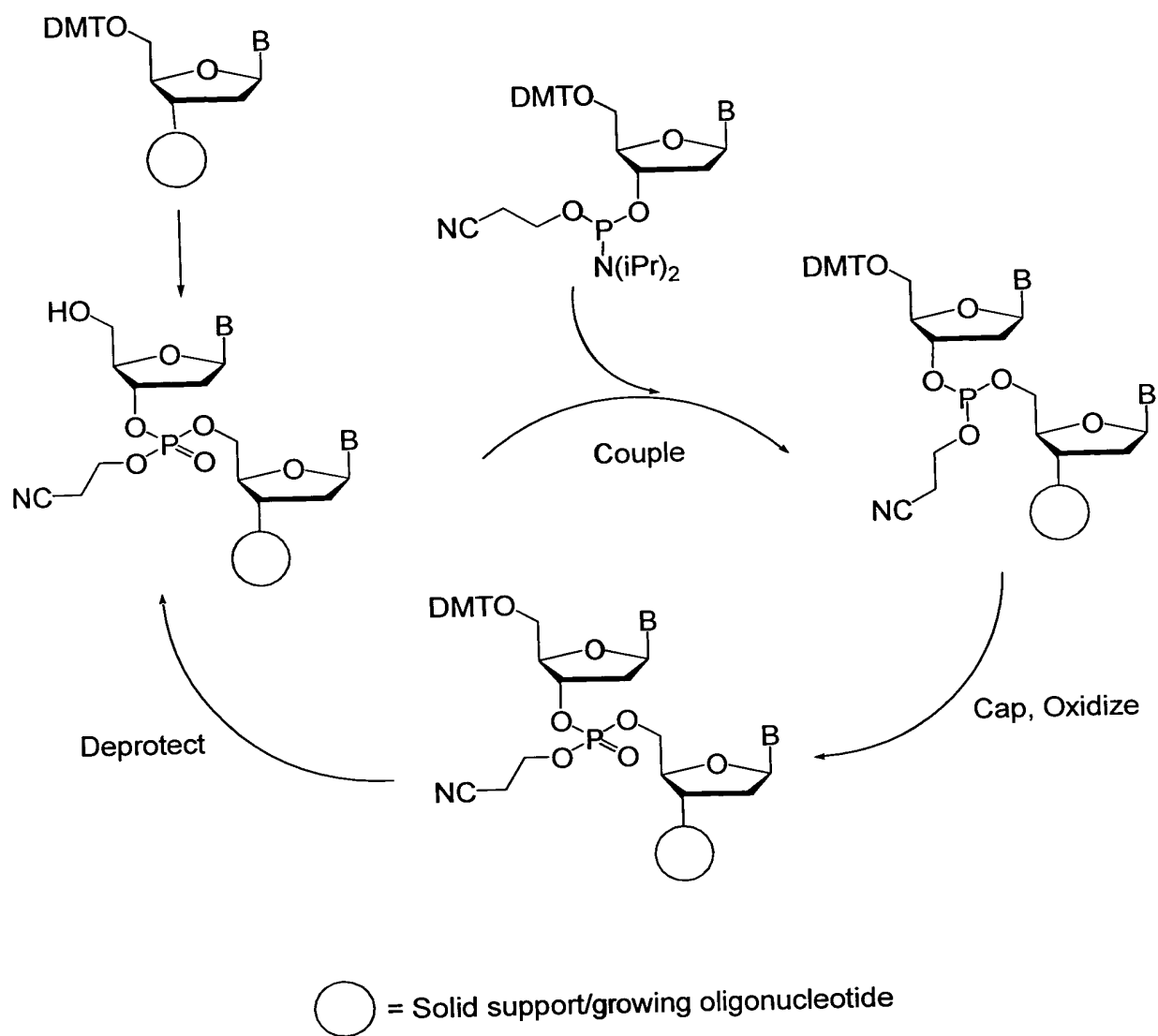
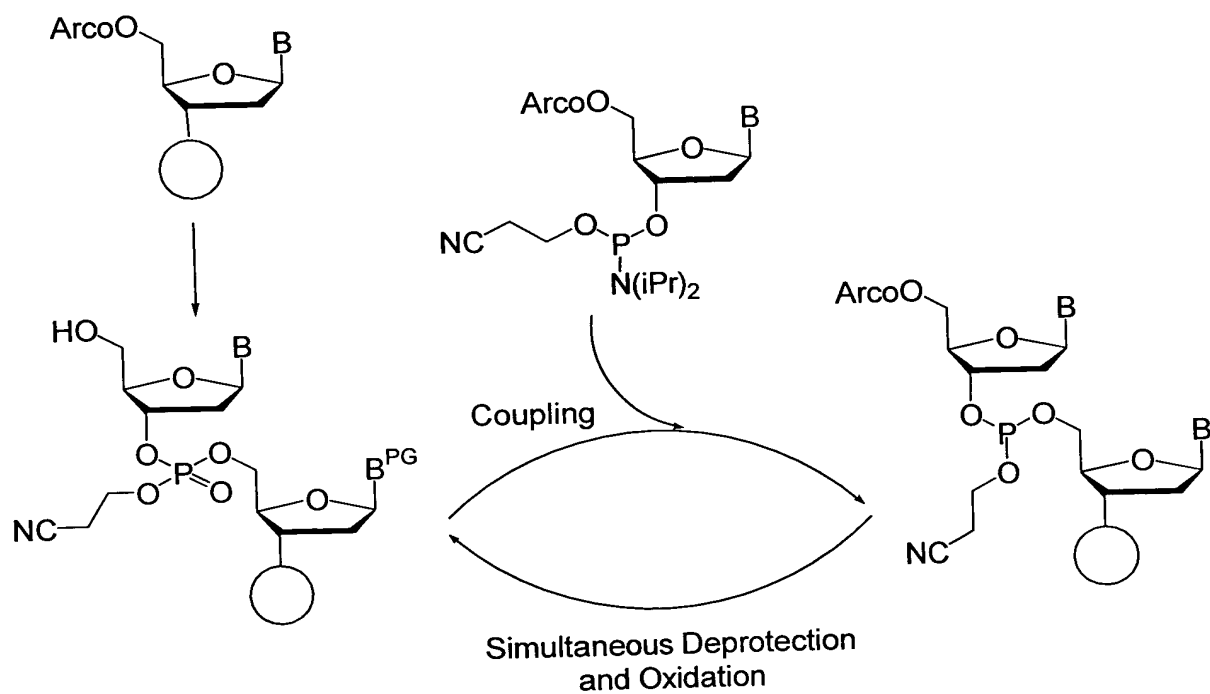
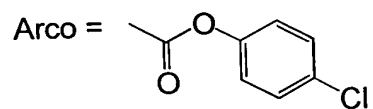


FIGURE 2

3'-5' Synthesis With Carbonate Protection



○ = Solid support/growing oligonucleotide



Comparison of Deprotection Mechanisms

FIGURE 3A

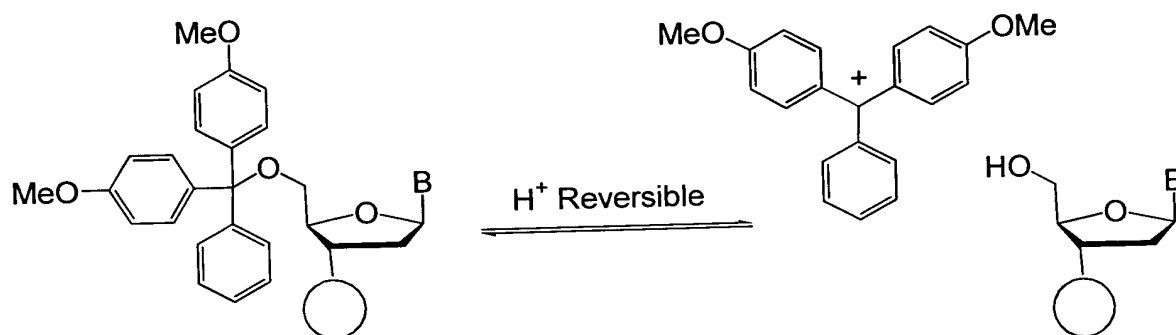


FIGURE 3B

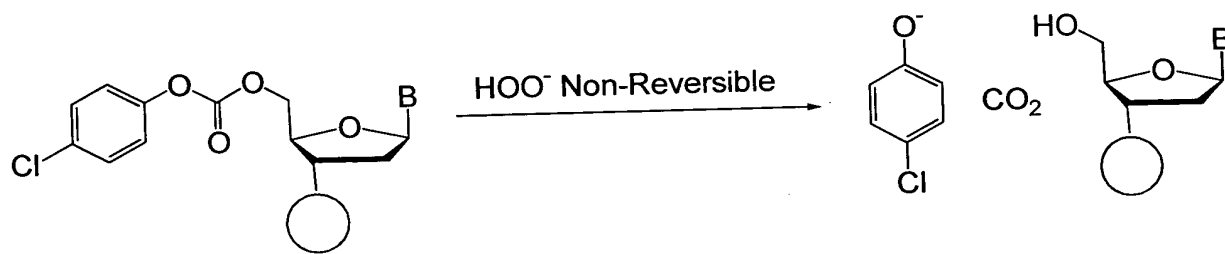
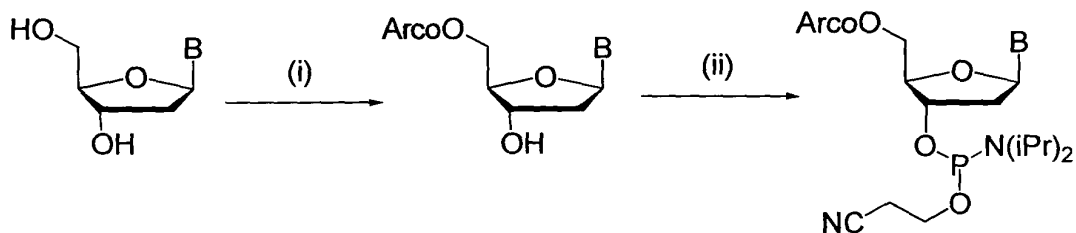


FIGURE 4

5'-Arco-3'-Amidite Synthesis



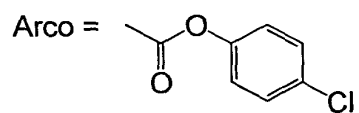
B =

a A(N⁶-Bz)

b C(N⁴-Fmoc)

c G(N²-ibu)

d T

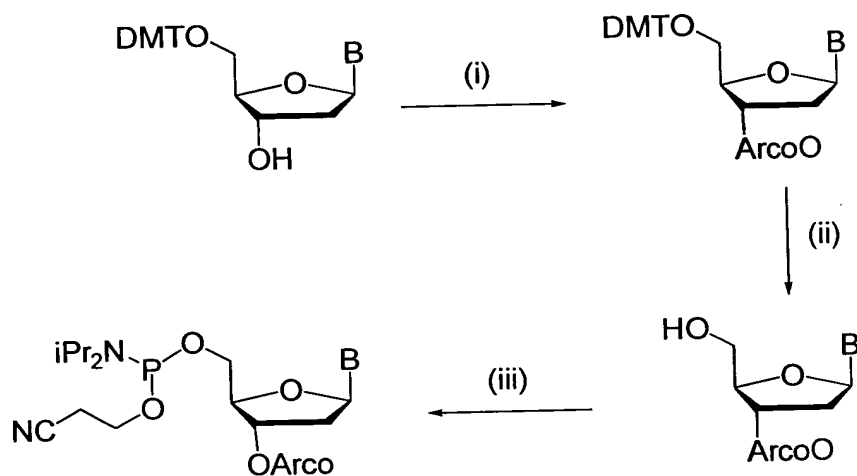


(i) 4-Chlorophenyl chloroformate/pyridine/2 h;

(ii) (iPr₂N)₂PO(CH₂)₂CN/tetrazole/CH₂Cl₂/1 h.

FIGURE 5

5'-Arco-3'-Amidite Synthesis



B =

a A(N⁶-Bz)

b C(N⁴-Fmoc)

c G(N²-ibu)

d T

(i) 4-Chlorophenyl chloroformate/pyridine/2 h;

(ii) 3% Trichloroacetic acid/CH₂Cl₂/3 min;

(iii) (iPr₂N)₂PO(CH₂)₂CN/tetrazole/CH₂Cl₂/1 h.

FIGURE 6

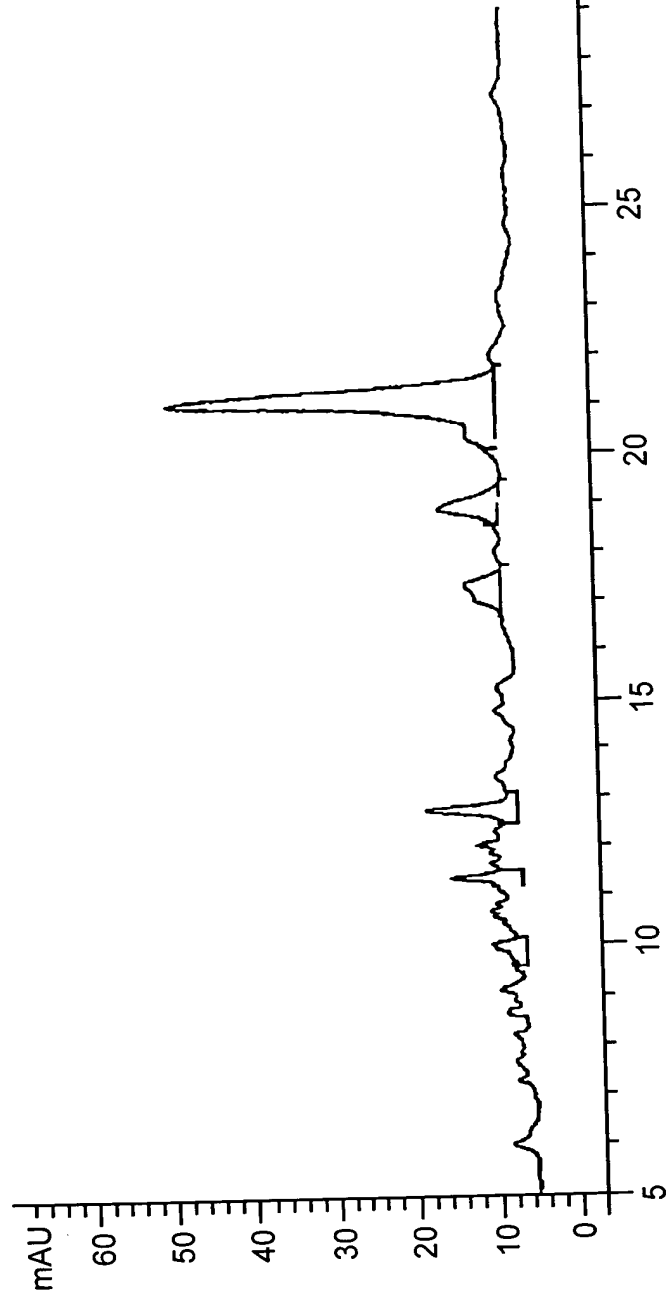


FIGURE 7

